

Protecting Scotland's Groundwater from Pollution – You Said, We Did.

1. Purpose

This document provides an analysis of the responses received to the Scottish Government's consultation on Protecting Scotland's groundwater from pollution. The consultation was supported by two SEPA consultations:

- Land contamination and impacts on the water environment
- WAT-PS-10, Assigning groundwater assessment criteria for pollutant inputs.

The consultation was open for comment from 23 November 2020 till 31 March 2021. During this period two briefing sessions were held, one for local authorities and another for a wider range of stakeholders hosted by the Scottish Contaminated Land Forum.

This document summarises the views we received and explains the actions we are taking in response.

2. Summary of consultation responses and our reply to them

There were twenty-five responses to this consultation, mainly from local authorities and regulated industry. Twenty-two responses were completed online with three, more general written responses, submitted by email. A summary of the issues we consulted on and the action we propose to take is set out in Table 1.

Proposal	Action proposed
Changes to the criteria used to determine whether groundwater has future resource potential	This proposal will be taken forward with some minor changes
The standards to assess pollution of future groundwater resource should be based on an area of 1ha impacted groundwater rather than the current distance-based approach	This proposal will be taken forward
We should take into account any existing contamination present in the groundwater when making an assessment of pollution	This proposal will be taken forward
The trigger for determining that a groundwater body is at poor status should be based on a 20ha plume of hazardous substances rather than a 200ha plume of any contaminants	This proposal will be taken forward

Proposal	Action proposed
When assessing if a groundwater body is at poor status, we should only consider impacts on nationally important groundwater dependent wetlands	This proposal will be taken forward
We should update our list of hazardous substances in line with the JAGDAG recommendations	This proposal will be taken forward
We should introduce standards for hazardous substances which identify the point at which there is a risk of groundwater deterioration, in order to ensure consistency and certainty	This proposal will be taken forward
The proposed hazardous substance standards should be based on drinking water standards and surface water environmental standards	This proposal will be taken forward
Issues of taste and odour should be taken into account in determining hazardous substance standards, in order to protect the future use of groundwater	We do not propose to take this forward but plan to take account of solubility for some oils.
A record of any residual land contamination, where an exemption from the relevant groundwater standards has been applied to remediation work, should be kept.	We do not propose to take this forward
We should raise the bar at which significant pollution is considered to occur in relation to the future groundwater resource	This proposal will be taken forward
We should change the criteria for defining “special sites” from one impacting on a Devonian or Permian aquifer to one that is causing a water body to be less than good status or is posing a risk of deterioration in status	This proposal will be taken forward
Where SEPA holds information that a site not yet identified as Part IIA Contaminated Land fits the criteria for a special site it can inform the local authority. The local authority will be required to determine if the land should be designated as Contaminated Land and a special site	We do not propose to take this forward

Table 1: Summary of the issues we consulted on and the action we propose to take.

A more detailed summary of the consultation responses and our reply is set out in section 3.

3. Details of the consultation responses and the Scottish Government’s reply

This section sets out the detail of the responses to the consultation questions and our reply to them.

3.1 Do you agree with the criteria we propose to use to determine whether groundwater has future resource potential?

- 60% of respondents agreed with the proposals;
- 20% were not sure;

- 10 % disagreed;
- 10% did not answer this question.

Those that disagreed did so because some groundwater under the sea, at depth, close the coast and in thin aquifers may be able to support water supplies. It was argued that we should use more site-specific evidence of whether groundwater has resource potential.

We plan to take forward the proposals as set out in the document with some minor changes to take account of the fact that in some limited circumstances groundwater at great depth or under the sea may be potable and have resource value. We therefore propose that threshold values indicative of future use and environmental standards for the input of hazardous substances into groundwater should not be applied to this groundwater provided these waters have an annual average level of natural electrical conductivity of greater than or equal to Scottish drinking water standard for conductivity.

In addition, we do not propose to take forward the proposal to treat groundwater less than 50m from the sea as not having resource potential. This is because we recognise that this water is not always saline. However, the sea will be a major discharge zone for most coastal groundwaters and this can be taken into account when assessing whether a plume of contaminated groundwater can exceed an area of one hectare and cause pollution.

3.2 Do you agree that the standards to assess pollution of future groundwater resource should be based on an area of 1ha impacted groundwater rather than the current distance-based approach?

- 50% of respondents agreed with the proposals;
- 30% were not sure;
- 15 % disagreed;
- 5% did not answer this question.

Those that disagreed did so because they felt that standard modelling software would not be able to assess sites, more detailed understanding of the subsurface would be required and that the area-based approach should not be applied to large areas of contamination.

We plan to take forward the proposal because the area-based approach can be converted into an equivalent distance for use in standard modelling software. SEPA proposes to provide more detailed guidance on this issue. In addition, an area-based approach, rather than a distance-based approach, should not require additional site investigation because the degree to which this site investigation and understanding is necessary will depend, amongst other things, the risk that a site poses and the proximity of sensitive receptors, rather than where the pollution assessment point is.

The size of the area of contamination should not influence how pollution is assessed. Assessment of pollution should be independent of the cause. Decisions on mitigation measures are taken separately and can take into account other factors.

3.3 Do you agree that we should take into account any existing contamination present in the groundwater when making an assessment of pollution?

- 50% of respondents agreed with the proposals;
- 30% were not sure;
- 10 % disagreed;
- 10% did not answer this question.

It was suggested that it may be difficult to obtain upgradient groundwater quality data, taking account of upgradient contamination is unfair to downstream polluters and, because it is harder to meet the standards if you take account of background contamination, more reliance will need to be placed on cost benefit assessment.

We plan to take forward the proposal to allow the contribution of any existing contamination to be taken into account when assessing if a standard has or will be exceeded. Whilst it can occasionally be challenging to obtain off site data, it is normally possible to obtain groundwater quality information from the upgradient part of a site. We are also allowing for decision on action to be separate to that of whether pollution is occurring. This allowance for the consideration of whether a groundwater exemption from meeting the prevent and limit objectives should help address the “fairness” issue for many downstream sites. For example, decisions on remedial action can consider whether measures to control or remove pollutants from contaminated ground or subsoil would be disproportionately costly. In terms of remedial action, we will expect, as a minimum, developers/owners that are affected by contamination upgradient or adjacent to their sites to focus their remedial efforts on breaking the pollutant linkage so that their site would not be causing pollution if the other pollutant sources were not present. We acknowledge that this action will help improve the quality of groundwater, rather than necessarily achieving complete remediation of the source and plume, and this will mean that some pollution may persist. We have asked SEPA to provide further details on this in its guidance.

3.4 Do you agree that the trigger for determining that a groundwater body is at poor status should be based on a 20ha plume of hazardous substances rather than a 200ha plume of any contaminants?

- 70% of respondents agreed with the proposals;
- 10% were not sure;
- 10 % disagreed;
- 10% did not answer this question.

The reason for disagreement was a concern that removing non-hazardous substances from the assessment of a large plume could mean that point source inputs of these substances could cause significant impact yet not result in a “poor status” classification.

As there was broad support for the proposal, we plan to take this forward. We agree that a large plume of non-hazardous substances may not trigger a water body being classed as “poor status”. However, these pollutants are by definition non-hazardous and new or

further inputs of non-hazardous substances should be prevented from causing pollution and as such not result in a poor status water body. To address the issue raised we propose that SEPA add to their guidance that if a plume of non-hazardous substances is currently, or likely to exceed an area of 200ha then SEPA should be contacted to determine if this is likely to result in a water body becoming poor status.

3.5 Do you agree that when assessing if a groundwater body is at poor status we should only consider impacts on nationally important groundwater dependent wetlands?

- 60% of respondents agreed with the proposals;
- 20% were not sure;
- 5 % disagreed;
- 15% did not answer this question.

The respondent who disagreed felt that Local Nature Reserves which comprise wetlands should also be included.

We plan to take forward the proposal. Local Nature sites will be afforded protection via regulatory duties to prevent and limit the inputs of pollutants into groundwater and inclusion of these sites in status assessment is not proportional.

3.6 Do you agree that we should update our list of hazardous substances in line with the JAGDAG recommendations?

- 80% of respondents agreed with the proposals;
- 10% were not sure;
- no respondees disagreed;
- 10% did not answer this question.

A few minor errors in the list were highlighted.

As there was broad support, we plan to take forward the proposals with corrections to the errors that were highlighted.

3.7 Do you agree that we should introduce standards for hazardous substances which identify the point at which there is a risk of groundwater deterioration, in order to ensure consistency and certainty?

- 80% of respondents agreed with the proposals;
- 10% were not sure;
- no respondees disagreed;
- 10% did not answer this question.

As there was broad support, we plan to take forward the proposals

3.8 Do you agree that our proposed hazardous substance standards should be based on drinking water standards and surface water environmental standards?

- 60% of respondents agreed with the proposals;

- 20% were not sure;
- 10 % disagreed;
- 10% did not answer this question.

Those who disagreed did so because they considered that the standards would allow some entry of hazardous substance(s) to groundwater and because it would be too onerous to include additional testing variables.

We propose to take forward the proposal because health and environmentally based values are better placed to take account of impact on the environment and don't change over time as laboratory techniques improve. No additional testing will be required. Testing requirements will be determined by, amongst other things, the nature and history of the source(s), uncertainty and risk.

3.9 Do you agree that issues of taste and odour should be taken into account in determining hazardous substance standards, in order to protect the future use of groundwater?

- 25% of respondents agreed with the proposals;
- 30% were not sure;
- 35 % disagreed;
- 10% did not answer this question.

Those who disagreed considered that:

- Taste and odour do not match the hazardous substance criteria that it must be toxic, persistent and liable to bioaccumulate, or of equivalent concern.
- There are very few published reliable taste and odour data.
- The thresholds may not be applicable in urban environments where use of the groundwater is unlikely.

We don't propose to take forward this proposal because there was insufficient support for this proposal and we agree that data on taste and odour thresholds are limited. However, drinking water-based values for some hydrocarbons are significantly above the limits of solubility. Allowing inputs at this drinking water-based value would result in non-aqueous phase liquids (NAPL) being present in the groundwater. Whilst this would not pose a risk to health it would affect the use of the groundwater. We therefore propose to set the threshold values and environmental standards for hazardous substances at 75% and 50% respectively of the drinking water-based values. However, we will include a requirement that the standards should be capped at the limit of effective solubility should a drinking water based standard result in NAPL. We plan to judge whether current potable abstractions have been impacted by comparison to drinking water standards. Note that the Scottish drinking water standards include taste and odour criteria.

3.10 Do you agree with our proposal to keep a record of any residual land contamination, where an exemption from the relevant groundwater standards has been applied to remediation work? How do you think this should be done, via legislation or by partnership working?

- 30% of respondents agreed with the proposals;
- 30% were not sure;
- 35 % disagreed;
- 5% did not answer this question.

Those who disagreed considered that:

- There will be an increase time/administrative burden for local authorities
- It will cause blight
- There is a better way to record/access the information
- There may be sensitivity over information included in the register.

We take on board the comments made and have decided not to implement the creation of a register at this time.

3.11 Do you agree we should raise the bar at which significant pollution is considered to occur in relation to the future groundwater resource?

- 45% of respondents agreed with the proposals;
- 30% were not sure;
- 20 % disagreed;
- 5% did not answer this question.

Those who disagreed raised concerns that:

- there would be little impetus for driving remediation under the planning regime if the Part IIA regime did not apply.
- Groundwater pollution may become so widespread that the resource is irreversibly damaged or requires much more costly remediation.

Whilst many respondents agreed with the proposals we acknowledge that there is concern about the ability to require action under planning that would not be required under Part IIA. This is the current situation as legislation requires the local authorities to implement River Basin Management Plan (RBMP) measures when carrying out their planning function. This is done via setting of planning conditions and enforcing against them as necessary.

We believe that the best time to remedy land contamination is when it is re-developed and that Part IIA should be used only for the most seriously contaminated sites and where there is no other route to require remediation. Our definition will result in several sites being excluded from Part IIA. However, Part IIA is not commonly used at present, most sites being remediated when they are redeveloped under the planning regime.

Because planning is already the key mechanism for remediating this should not prevent remediation of land contamination.

We therefore plan to proceed with the proposal but we will seek to better clarify this approach in planning guidance when this is possible and have asked SEPA to undertake briefing sessions with local authorities.

3.12 Do you agree that we should change the criteria for defining “special sites” from one impacting on a Devonian or Permian aquifer to one that is causing a water body to be less than good status or is posing a risk of deterioration in status?

- 65% of respondents agreed with the proposals;
- 30% were not sure;
- no respondents disagreed;
- 5% did not answer this question.

As there was broad support, we plan to take forward the proposals

3.13 Identification of “special sites” for SEPA action

There were many concerns about the proposals for the local authority to determine land contamination under Part IIA based on information provided by SEPA. This was because of concern over resources in local authorities to do this and because it would disrupt their inspection strategies. It may then result in prioritising water impacts over human health. There is also concern that if a site is determined to be Contaminated Land by the local authorities in this way it may not be accepted by SEPA as a special site. This could leave the local authority with regulatory responsibility for some/all of the site.

In addition, it was pointed out that under the current legislation, SEPA can present information about any site to the local authority for consideration at any time. Continued close partnership working with SEPA was considered preferable to legislative change.

In light of these comments, we don't plan to take forward the proposal to change legislation to require local authorities to determine if the land should be designated as a special site where SEPA has highlighted that a site fits the criteria for a Part IIA special site. We agree that legislative change is not required, and this is best done via close partnership working.